

Hitchcock's Machine Tool Blue Book

DECEMBER, 1932

TWENTY-SEVENTH YEAR

ANNOUNCEMENT!

We wish to announce the purchase of the "Good-Will," tools, fixtures, patterns and drawings of the entire gear and reducer line of the

ALBAUGH-DOVER MFG. CO.

Mfrs. of Gears and Reducers Since 1912

BY THE

ABART GEAR & MACHINE CO.

Manufacturers of Gears and Reducers of All Types.

The high standard of quality that distinguished the A-D Line will be continued, plus such refinements as may be suggested by our staff of experienced engineers. With our up-to-date facilities we are able to serve you better than you have ever been served before. Call or write us.

Abart

Gear & Machine Co.

4835 West 16th Street
CICERO, ILL.

LAST WORD IN GEARS

PUBLISHED AT 508 So. DEARBORN ST. CHICAGO



WHAT PRICE DRILLS?

When you purchase twist drills, do you "go shopping" or place your order on the "Cost-per-Hole" Test?

What do we mean by "Cost-per-Hole" Test? Simply that, no matter what you pay for drills, their value depends entirely upon the number of holes each drill can produce, and the cost per hole drilled.

As a result, more and more drill users, and buyers, are asking, not "How much?" but "What do your drills cost per hole?"

Cle-Forge High Speed Drills are offered you on the basis of their known, everyday performance. If you are interested in this modern, scientific way of buying, ask us to send you Performance Digests Nos. 56, 58, 59, 60, 61, 72, 82 and 83, together with complete instruction forms for making a comprehensive drill test in your own shop.



TRADE MARK
SER-42 PAT. 2,191,191

The

CLEVELAND
CLEVELAND

TWIST DRILL
COMPANY
CLEVELAND
NEW YORK · CHICAGO · LONDON
SAN FRANCISCO

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

Hitchcock's Machine Tool Blue Book

**Selected
Circulation**

**Over 25,000
Monthly**

DECEMBER, 1932

TWENTY-SEVENTH YEAR

Now Is the Time

If history repeats itself, our large bank reserves will not remain idle. These excess funds will be put to good use. The effect will be to raise prices and stimulate business.

In the machine tool trade the effect is already noticeable. The August business exceeded that of July. September registered a further increase, which continued during the following month.

Now is the time to rehabilitate your plant, for many reasons. First, it will enable you to produce more economically, to meet the coming demand; second, you can secure better prices, better terms and better deliveries than will be possible if you delay; third, every order placed now serves to stimulate business.

The U. S. Steel Corporation have announced that they will spend five million on plant improvements. The Remington-Rand Corporation have instructed their purchasing department to buy 25% in excess of their requirements. How many have their courage?

The advertisers in this publication also have the courage to spend their money during these times to tell you what they have that may fit right in with your requirements. Will you not meet them half way and at least investigate their offerings? They will welcome your inquiries.

Published By

Hitchcock Publishing Co.
508 S. Dearborn St., Chicago, Ill.

Consult the Classified Finding Index for your requirements

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Please say "Blue Book" when writing to advertisers.

FOOTBURT



A Single Spindle Footburt Sipp Sensitive Drill

**Made in three
sizes of single
and multiple
spindle models**

More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

The Foote-Burt Company, Cleveland, O.

FOOTBURT

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Please say "Blue Book" when writing to advertisers.

KRW Hydraulic and Sensitive ARBOR PRESSES

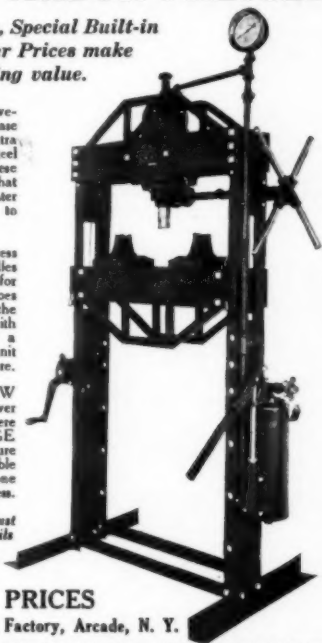
New Improvements, Special Built-in Features and Lower Prices make them an outstanding value.

THE last word in convenience, efficiency and ease of operation. Built extra strong and well braced with steel trusses electrically welded, these presses will withstand strains that would cause presses of lighter and inferior construction to buckle or collapse.

Hand wheel for sensitive press operations has sliding handles which pull out to the ends for increased leverage. Work does not have to be changed from the work table as is the case with other make presses having a separate sensitive press unit mounted on the side or elsewhere.

The importance of this KRW feature as a time and labor saver can be appreciated. Also there is **NO EXTRA CHARGE** for this important built-in feature on a KRW Press. Work table can be raised easily with one hand. A strictly one-man Press.

Write for special circular, just off the press, giving full details and specifications of all KRW Arbor Presses.



PRICES

F. O. B. Factory, Arcade, N. Y.

- No. 37—35 ton Hydraulic and Sensitive Arbor Press (hand operated) \$128.00
No. 37B—35 ton Hydraulic and Sensitive Arbor Press (air-oil operated) 128.00
No. 37E—50 ton Hydraulic and Sensitive Arbor Press (hand operated) 150.00
(Can also be furnished in air-oil operated at same price)
No. 37F—70 ton Hydraulic and Sensitive Arbor Press (hand oper. only) 275.00
Gauge and fittings, \$15.00 extra on all presses.

K. R. WILSON

10-16 Lock Street, Buffalo, N. Y., U. S. A.

EXPORT DEPARTMENT
126 Liberty St., New York

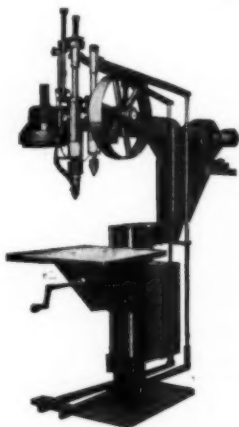
WEST COAST BRANCH
722 Mateo St., Los Angeles

Do Your Screw Driving

The Modern Way—

It Pays!

The Reynolds
Automatic
MAGAZINE
FED
Screw Driving
Machine



Can Save You from 65 to 85% Over Other Methods

This Modern Machine built for high speed production will drive from 8,000 to 16,000 screws per day. The Magazine Feed enables one man to do the work five men using hand methods can accomplish. Every screw is firmly imbedded and driven so accurately that many users have been able to reduce the number and sizes of screws used.

Drop us a line, giving dimensions over all of your work, the length and gauge of screws used, and we'll submit facts and figures Showing how the REYNOLDS can reduce your costs.

The Reynolds Machine Company
Dept. H. H. Massillon, Ohio

"THE MODERN WAY TO DRIVE SCREWS"

**-ELCO-
SCREWS**

REDUCE ASSEMBLY COSTS

ELCO SCREWS WILL IMPROVE YOUR PRODUCT

It will pay you to specify ELCO SCREWS if you desire accuracy and uniform high quality at moderate prices.

Modern production methods, ample warehouses and ideal shipping facilities enable us to offer our customers an unusual combination of Quality and Service. Standard sizes are shipped from stock in any desired quantity.

Write for Samples and Prices

MACHINE SCREWS
MACHINE SCREW NUTS
WOOD SCREWS
LAG SCREWS
CAP SCREWS
PIPE PLUGS

Remember that in Screws—
there is a difference!

All inquiries
receive prompt,
intelligent
attention

**ELCO TOOL & SCREW
CORPORATION**

1808 Broadway, ROCKFORD, ILLINOIS

"It Pays to Use Good Screws"



Men Will Go Back To Work

By George H. Corliss

*Advertising and Sales Promotion Manager J. A. Fay & Egan Co.
Writer on Economics, Authority on Merchandising.*

Business will be BETTER in 1933. Of this there is absolutely no question. GREAT POSSIBILITIES LIE AHEAD.

One big problem that confronts industry is how to keep manufacturing costs down. This problem cannot be ignored.

Owners MUST realize that low production cost is IMPOSSIBLE with "patched-up" equipment, antiquated machinery and managers who still pursue old methods.

Progressive management MUST look to improved mechanical means to produce every manufactured unit at a lower cost. Unprogressive managers will join the army of unemployed. They will not resign. They will be thrown out with their obsolete machines and out-worn methods.

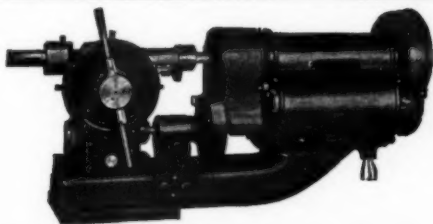
Better machines have been designed during the past few years. They are now ready for the purchaser when he can make up his mind to get rid of his "old acquaintances" and "star-boarders," though it may hurt his own personal feelings terribly to part with them. THERE IS NO OTHER CHOICE.

In 1933 men will go back to work but cannot be profitably employed using obsolete machinery. The United States will not stand still. For many years yet to come this country will be going somewhere—either backward or forward. The direction of travel will depend largely on methods and machinery—antiquated or modern.

THE VALUE OF A TOOL DEPENDS ON WHAT IT WILL PRODUCE.

The Cost of Finished Work is the
Real Consideration.

HOW GOOD——HOW FAST?



MEN

who expect Quality work expect to pay a
Quality price, rather than to think *only*
in terms of "how much."

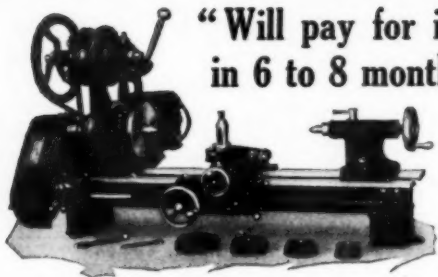
ARE YOU INTERESTED

in **GOOD DRILLING—
GOOD TAPPING ?**

We have Tapping Attachments as well as Built-in Tappers
and a full line of Motor Units and Drilling Machines.

ALL ARE QUALITY TOOLS.

THE AVEY DRILLING MACHINE CO.
CINCINNATI



**"Will pay for itself
in 6 to 8 months"**

**ATLAS
9" Bench
LATHE
\$79⁰⁰**

Transfer your small lathe work from large lathes to an ATLAS—and quickly *save its cost in power*. Uses only $\frac{1}{4}$ h. p. motor. Plugs into light circuit. \$79.00 complete as shown, less motor. Self contained, 18" between centers, also larger sizes. Accurate to .001. Satisfaction or money back. *Write for terms and full information.*

ATLAS PRESS CO., 1850 N. Pitcher St.,
Kalamazoo, Mich.

Grant NOISELESS SPINNING Riveter

**Makes Every Riveting Job
Both Easy and Satisfactory**



Its speed of one perfectly formed rivet every operating second—the convenience with which it places rivets in previously hard-to-get-at places, and its fool-proof construction that admits rapid operation by unskilled labor, all combine to make it a tool that you cannot overlook in figuring economical shop processes.

However, Actual Results are the most Convincing: Send us a sample for riveting. We will return it with full production data.

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.

1905



1932

FLEXIBLE SHAFT MACHINES

FOR MANY OPERATIONS

YOU CAN'T GO WRONG WITH THE STRAND

Type MP-5



THEY MAKE GOOD

MANY TYPES AND SIZES

$\frac{1}{8}$ to 2 H. P.

HORIZONTAL

OR

VERTICAL

SEND FOR CATALOG

Manufactured By

N. A. STRAND & CO.

5001-5009 N. Lincoln St.,

Type ML-6



Chicago, Ill.

ARMSTRONG

TRADE MARK REG. IN U.S. PAT. OFFICE



Now **ARMSTRONG**
KNURLS are *Hob-Cut*



Another improvement to the Armstrong System of Tool Holders—*Hob-Cut* Knurls for **ARMSTRONG** Knurling Tools.

These new improved knurls do cleaner, sharper knurling, last longer, cut knurling costs.

Write for
Catalog
B-27

ARMSTRONG BROS. TOOL CO.

"The Tool Holder People"

308 N. Francisco Ave., CHICAGO, U. S. A.

Here's A Real Market For YOU

—A Fertile Field

The list of prospective buyers we reach
every month is very large—

Over 25,000

We believe it to be good judgment to inaugurate an advertising campaign in these pages starting at once, as improved conditions now point the way to increased business.

This publication has been the handbook of the industry now for over 26 years and rightfully enjoys a remarkable buyer interest. Advertisers who check their inquires say it is a splendid result producer.

Let us send you complete information

Hitchcock Publishing Co.

508 South Dearborn St.,

Chicago, Ill.

Free Trial of Hand-ee Grinder Touch Off — Dress Up — Speed Up

The Hand-ee Grinder is designed for light grinding on odd jobs, many of which cannot be done economically or conveniently with heavier grinders. It gets into hard-to-get-at places; grinds things that cannot be touched with a file; speeds up work in a thousand different places.

Take it to the job, plug in, and grind. 100 wheel shapes available. Cutters for wood and soft metals.

Order today. Three wheel shapes free. Five-day free trial. Order direct or from your supplier.

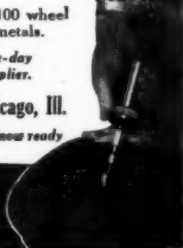
M. C. TOOL CO., 116 S. Aberdeen St., Chicago, Ill.

Ask for new catalog "Grinding Wheels on Shanks" now ready

ORDER
DIRECT
OR FROM
SUPPLIER

\$10.00
POST PAID

100 SHAPES AVAILABLE



CHAMPION Tool Holders

Save Expensive Tool Steel

Made of drop-forged steel, thoroughly case-hardened. Absorbs heat from cutter, permits heavier cuts, lessens breakage.

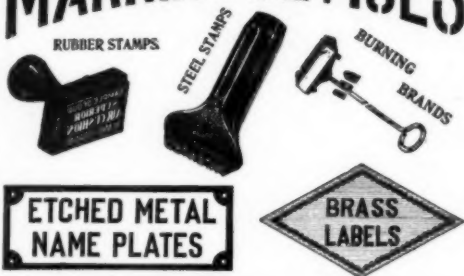
The patented, protruding under-support, equipped with unbreakable "Mac-it" set-screw, increases the bearing for the cutter 40 to 70%, with a corresponding increase in cutter economy. Write for details.

Our Catalog also describes Champion Expanding Mandrels, Vises, Clamps, Emery Wheel Dressers, Shop Furniture, Etc.—Send for it.

The Western Tool & Mfg. Co.
SPRINGFIELD, OHIO



MARKING DEVICES



THE SCHWERDTLE STAMP CO.
BRIDGEPORT, CONN.

"ALNOR" Pyrometers

for the
Hardening
Furnace

MODEL 223

Inexpensive, yet accurate and durable, the ALNOR Pyrometer is used by large and small shops everywhere for heat-treating work. Because of its low first cost and compact size it is also very popular for soft metal melting, galvanizing, die casting, japanning, enameling, measuring flue gas temperatures and many other purposes.



Case diam.
4½ in.

Scale length
3½ in.

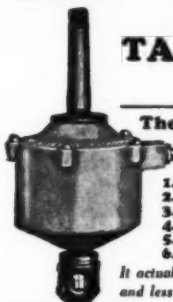
\$35

With 10 ft. Alloy Wire, connector block and a No. 8 gauge insulated thermo couple 24" long without protection tube

Write for descriptive folder

Illinois Testing Laboratories, Inc.
150 W. Austin Ave., Chicago, Ill.

The "PROCUNIER" —HIGH SPEED— TAPPING ATTACHMENT



The last word in tapping Efficiency!

HERE'S WHY—

1. Super sensitive cork friction clutch.
2. Absolute accuracy.
3. Eliminates tap breakage.
4. Balanced reversing mechanism.
5. New style light weight tap holder.
6. Speedy? Yes. 2 to 3000 R. P. M.

It actually pays for itself in a few weeks by replacing slower and less sensitive tappers—write today for free trial offer!

PROCUNIER SAFETY CHUCK CO.

14 S. Clinton St.,

:-:

-:-

Chicago, Ill.

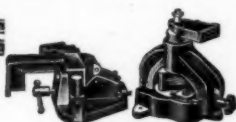
No. 8 IMPERIAL PUNCH WITH BASE

Operating handles
will not become
disengaged

Can Be Furnished
With or Without
Base

CAPACITY
 $\frac{3}{4}$ " hole through $\frac{1}{4}$ "
iron.

Weight, 16 lbs.
Length over all.
 $25\frac{1}{2}$ ".



No. 50 ANGLE IRON
MITRE NOTCHER
and No. 51 ANGLE
IRON BENDER

CAPACITY $2\frac{1}{2}$ "x $2\frac{1}{4}$ "
ANGLE IRON OR
SMALLER.

Weight of Mitre Notcher
only 55 lbs.

Weight of Mitre Notcher
Bender only 43 lbs.



ANGLE IRON
SHEAR No. 4
Drop Forged

Capacity 2 "x $2\frac{1}{4}$ "
Angle Iron
Weight 44 lbs.

Write for Catalog on Entire Line

WHITNEY METAL TOOL COMPANY

95 FORBES ST.,

ROCKFORD, ILL.

It Will Profit You

YOU CANNOT GO WRONG if you select your purchases of new machinery and equipment from the reliable and progressive manufacturers represented in this publication, who by their advertising show they intend to stay in business and think enough of their products to publicly call them to your attention. Those who are advertising in this issue are as follows:

Abart Gear & Machine Co.
Anderson Bros. Mfg. Co.
Armstrong-Blum Manufacturing Co.
Armstrong Bros. Tool Co.
Atlas Press Co.
Avey Drilling Machine Co.
E. A. Baumbach Mfg. Co.
Boston Gear Works Sales Co.
Burke Machine Tool Co.
Cleveland Twist Drill Co.
Defiance Machine Works
Eisler Electric Corporation
Elco Tool & Screw Corporation
Ettco Tool Co.
Foote-Burt Company
J. C. Glenzer Company
Graham Manufacturing Co.
Grant Mfg. & Machine Co.
Illinois Testing Laboratories, Inc.
T. H. Lewthwaite Machine Co.
Luma Electric Equipment Co.
M. C. Tool Company
J. E. Martin Tool & Die Works
Procurier Safety Chuck Co.
Reynolds Machine Co.
Schwerdtle Stamp Co.
N. A. Strand & Co.
Sunstrand Machine Tool Co.
Thompson Grinder Co.
Walls Sales Corporation
The Walton Co.
Western Tool & Mfg. Co.
Whitney Metal Tool Co.
K. R. Wilson

Get in touch with these progressive manufacturers when in need of
DEPENDABLE PRODUCTS.

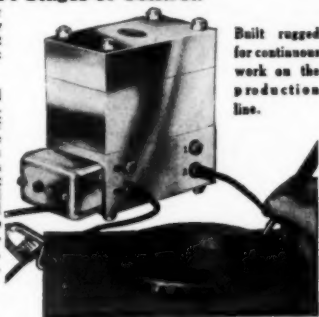
For Light and Heavy Etching

With 24 Stages of Control.

The LUMA Master Etchtool fulfills every marking requirement that can be done by an electric Etching outfit.

A Production Tool with as many as 24 different stages or varieties of control for regulating the depth of marking, this tool can be used for extra light marking of machine scales, micrometers and fine tools or can be used for *extra heavy and deep* marking of rough and unfinished iron, cast iron, forgings, steel plates, etc.

Send for circular giving complete data and details of this modern instrument.



Built rugged for continuous work on the production line.

LUMA ELECTRIC EQUIPMENT CO.
DEPT. H.—Main P. O. Box No. 132—TOLEDO, OHIO

GRINDERS

for roughing and finishing

FLAT WORK

Ring Wheels 12" and 18"

Table travels 16" and 24"

For Production to Tool Room



Send for Circulars

Work Bound to be True



PULLEY GRINDERS

Finish Belt Surface, Crowned or Straight, from the Rough. Also Truck Treads and Curved Work.

GRINDER CHUCKS hold Abrasive Rings, 10" to 30" dia.

Flat Work Grinder

THE GRAHAM MFG. CO., 70 Willard Ave. PROVIDENCE, R. I.

STANDARDIZATION PAYS



UP TO
**ONE HUNDRED
HORSEPOWER**
FROM STOCK!

SEND FOR CATALOG

BOSTON GEAR WORKS SALES CO.
NORTH QUINCY, MASS.

BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO

BOSTON GEARS

MORE PRODUCTION



With Higher Speed, Less Spoiled
Work, Fatigue or Broken Taps

ETTCO
High Speed-Sensitive
**TAPPING
ATTACHMENT**

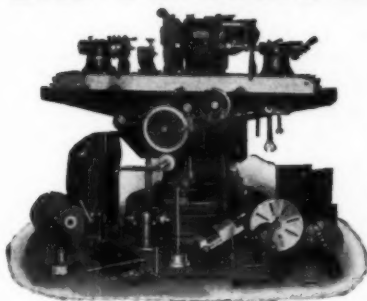
MULTIPLE SPINDLE TAPPING HEADS
With complete engineering service.

FIVE SIZES—UP TO ONE INCH TAPS

Try Ettcos at Our Expense. We have a nice New Circular??

ETTCO TOOL CO., Inc., 514 Johnson Ave.,
BROOKLYN, N. Y.

SIX Grinders In ONE



**12'x36'
Thompson
Universal
Grinder**

Does every grinding operation required in the machine shop. Lowest cost work for plain, surface, die, cutter, edge and internal grinding. All standard machines equipped with auxiliary independent coarse cross feed for surface grinding.

Let us send you the Illustrated Booklet today!

The Thompson Grinder Company
1534 West Main St., 1-1 Springfield, Ohio

Use **BURKE** Tappers



for Economy,
Efficiency and
Accuracy

The No. 606 tapper is also excellent for reaming, burring, and counter-sinking.

WRITE FOR DETAILS

THE BURKE MACHINE TOOL CO.
297 E. 16th St., - Conneaut, Ohio, U. S. A.

FREE BUYERS' SERVICE

To All of Our Readers

If you will list below the new or used metal-working machines or machine shop equipment for which you are in the market, and mail it to us, we shall be glad to broadcast it to all of our advertisers. Replies will come from them, not from us.

But if you prefer that we put you in direct touch with the manufacturers of any particular machine tool or other metal-working equipment, let us know and we will endeavor to locate them for you.

Name

Address

We are in the market for

.....

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.....

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.....

.....

.....

.....
Mail to Hitchcock Publishing Co., 508 So. Dearborn St., Chicago, Ill.

When a Tap Breaks —That's Enough



Your loss will stop there if you have a handy WALTON TAP EXTRACTOR in your shop.

Simply insert the *Fingers* of this time saving device into the flutes of the broken tap, unscrew the Extractor with an ordinary tap wrench, and back the tap out. A WALTON obviates delays and operates so simply that an apprentice can handle it.

Made in three and four-flute styles.

Let us send you one for a sixty-day trial

The Walton Company

302 Pearl St.,

Hartford, Conn.



T. H. L. Punches

Insure Continuous and Profitable Production

Because they are made of the right quality of tool steel.

Because they are hardened with every care.

Because all our experience of 40 years is centered in making them accurate, rugged and dependable.

*Large stock of regular sizes
Special sizes quickly made*



T. H. Lewthwaite Machine Co.

311 East 47th St.,

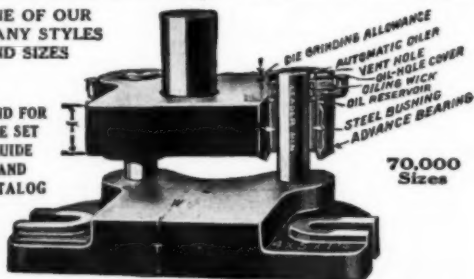
(Est. 1890)

New York City

Automatically Oiled Die Sets

ONE OF OUR
MANY STYLES
AND SIZES

SEND FOR
DIE SET
GUIDE
AND
CATALOG



70,000
Sizes

E. A. BAUMBACH MFG. CO.

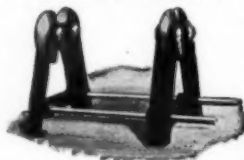
GENERAL OFFICE AND WORKS

1810 South Kilbourn Ave., CHICAGO, ILLINOIS

Sales and Engineering Offices—Principal Cities U. S. A. and Canada

Anderson Ever Ready

Exceedingly Sensitive



Balancing Ways

Easy to Manipulate

Made in six sizes to balance anything that revolves from a crank shaft to a 24,000 lb. turbine rotor. They require no special leveling, no adjustment, and no centers.

Equipped with glass-hard spindles, chilled steel discs, and especially sensitive ball bearings, to give accurate, long time service.

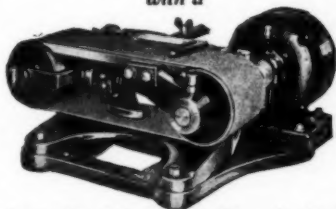
"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards.	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight.	45	90	150	350	650	
Code	Bend	Bid	Bis	Bib	Ben	

Anderson Bros. Mfg. Co.

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Simplex-M Abrasive Band Grinder

This Grinder accelerates production and cuts costs. Hand emerying or filing operations are antiquated in comparison. The use of this new modern machine assures straight grain finishes with sharp edges. *Details of this and other styles and sizes on request.*

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This Interchangeable Counterbore and Spot Facer is equipped to serve you better, longer and with greater economy—because of

Four Points of Superiority

- (1) Pilots cannot break or twist off.
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*If you are interested in tool economy,
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Analysis of Circulation of HITCHCOCK'S MACHINE TOOL BLUE BOOK

By Dun and Bradstreet Ratings

(Corrected to December 1st, 1931)

To domestic concerns, and superintendents, works managers, production engineers, master-mechanics, etc., in such concerns rated at—

Exceeding \$1,000,000.....	2,181
\$500,000 to \$1,000,000.....	1,603
\$300,000 to \$ 500,000.....	1,529
\$200,000 to \$ 300,000.....	1,367
\$125,000 to \$ 200,000.....	1,784
\$ 75,000 to \$ 125,000.....	1,985
\$ 50,000 to \$ 75,000.....	1,417
\$ 20,000 to \$ 50,000.....	2,992
\$ 10,000 to \$ 20,000.....	1,983
\$ 5,000 to \$ 10,000.....	1,625

TOTAL to Private Concerns of over \$5,000.. 18,466

Steam and Street Railway Mechanical and Purchasing Officials, Government and Municipal Plants, Technical Schools, Electric Power Plants, Selected Foreign Importers and Users, Etc.,.....	3,411
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TOTAL to Buyers of Known Responsibility.. 21,877

*Concerns quoted in Dun or Bradstreet, but without Capital Rating..... 2,116

Concerns not yet in either Dun or Bradstreet, which includes new industries..... 961

Concerns rated \$3,000 to \$5,000..... 465

Miscellaneous 195

TOTAL CIRCULATION 25,614

*This group includes a considerable number of large concerns, and some small ones of high credit, whose capital rating is not given by either of the commercial agencies.

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SPOT WELDERS

$\frac{1}{2}$ to 50 K. V. A.

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**AUTOMATIC MOTOR
DRIVE**, no change
gears, for welding
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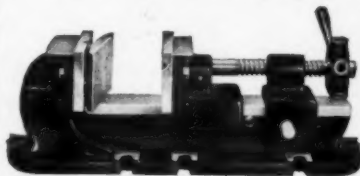
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Discard Obsolete Equipment!



Made
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Up To
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High Speed Edge Hack Saw Blades

AUTOMATIC HACK SAW



SAW FRAME—
All shafts and
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ings are
BALL BEARING

**Entirely Automatic—Feeds the Bar—Produces
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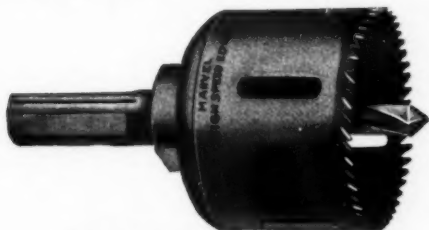
THIS NEW Heavy Duty, Automatic High Speed Hack Saw will replace from six to eight ordinary hack saws on production work, making possible a great saving in time, floor space, labor and expenses. Feeds bars to any length from $\frac{1}{8}$ in. to 26 in. and will cut 4 sq. in. per minute, floor to floor, in mild steel and 2 sq. in. per minute in annealed high speed steel. Write for complete specifications and prices.

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No. 9A Capacity 10'x10'

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Marvel Hack Saw Machines— Blades—High Speed Edge Hole Saws



MARVEL HOLE SAW

26 Sizes, $\frac{3}{4}$ " to $4\frac{1}{8}$ "

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Belts-V

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Defiance Machine Co., Defiance, O.

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Drilling Machines, Multiple Spindle

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Drilling Machines, Sensitive

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Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Die

Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Internal

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Grinding Machines, Portable Electric

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Grinding Machines, Pulley Finishing

Graham Manufacturing Co., Providence, R.I.

Classified Finding Index

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Graham Manufacturing Co., Providence, R.I.

Grinding Machines, Surface

Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Universal

Thompson Grinder Co., Springfield, Ohio

Hack Saw Blades

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Hack Saw Machines

Armstrong-Blum Mfg. Co., 241 N. Francisco Ave., Chicago

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Stowak Tool Co., Detroit, Mich.

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Lathes, Manufacturing

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Mandrels, Expanding

Western Tool & Mfg. Co., Springfield, O.

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Milling Machines, Plain

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Sun Oil Co., Philadelphia, Pa.

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Presses, Punch

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Pulleys-V

Delta Mfg. Co., Milwaukee, Wis.

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Armstrong-Blum Mfg. Co., 841 N. Francisco
Ave., Chicago

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Ave., Chicago
Lewthwaite Mch. Co., T. H., 311 E. 47th,
New York
Whitney Metal Tool Co., Rockford, Ill.

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Lewthwaite Mch. Co., T. H., 311 E. 47th, N. Y.

Punches and Shears

Excelsior Tool & Mch. Co., E. St. Louis, Ill.

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Austin Ave., Chicago

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Lewthwaite Mch. Co., T. H., 311 E. 47th, N. Y.

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Delta Mfg. Co., Milwaukee, Wis.

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Schwardtke Stamp Co., Bridgeport, Conn.

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Whitney Metal Tool Co., Rockford, Ill.

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St., Chicago

Tap Extractors

Walton Co., Hartford, Conn.

Tap Holders

Procuter Safety Chuck Co., 14 S. Clinton
St., Chicago

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Procuter Safety Chuck Co., 14 S. Clinton
St., Chicago, Ill.

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Burke Machine Tool Co., Connessut, Ohio
Etico Tool Co., Brooklyn, N. Y.
Frocunier Safety Chuck Co., 14 So. Clinton
St., Chicago, Ill.
Whitney Metal Tool Co., Rockford, Ill.

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Austin Ave., Chicago, Ill.

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Grant Mfg. & Mch. Co., Bridgeport, Conn.

Threading Tools

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tool Holders

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago
Western Tool & Mfg. Co., Springfield, O.

Tools, Boring

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Lathe and Planer

Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago

Tools, Machinists'

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Av., Chicago

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Downs, Mass.

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Automatic Machine & Engineering Co., Inc.,
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Bennett Machinery Co., 30 Church St.,
New York, N. Y.
Brotherhood & Son, Percy M., 35 Church St.,
New York, N. Y.
Bernstein & Co., Geo. M., 223 N. Elizabeth
St., Chicago, Ill.
Brown Machinery Co., St. Louis, Mo.
Brownell Machinery Co., Providence, R. I.
Cincinnati Mch. & Supply Co., Cincinnati, O.
Donahue Steel Products Co., 74th and
Ashland Ave., Chicago
Eastern Machinery Co., Cincinnati, O.
Elyria Belting & Mch. Co., Elyria, Ohio.
Emerson & Co., Louis E., 1760 Elston Ave.,
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Easley Machinery Co., E. L., 725 Rees St.,
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Factory & Mill Supply Co., 170 Oliver St.,
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Fay & Egan Co., J. A., Cincinnati, Ohio
Gosse, James, J., Boston, Mass.
Hill, Clark & Co., 645 W. Washington Blvd.,
Chicago, Ill.

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Indianapolis Machinery & Supply Co.,
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Johnson & Sons Machinery Co., Wm. C.,
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Jones Machine Tool Co., Cincinnati, Ohio
McDonald Machinery Co., St. Louis
Marr-Gelbreth Mch. Co., Pittsburgh, Pa.
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Mid-West Machine Tool & Supply Company,
Davenport, Iowa
Miles Machinery Co., Saginaw, W. S., Mich.
Norton-Broadway Mch. Co., Cincinnati, O.
O'Brien Machinery Co., Philadelphia
Osborne & Sexton Mch. Co., Columbus, O.
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Mo.
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White Mch. Co., A. D., 108 N. Jefferson
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Wigglesworth Mch. Co., Cambridge, Mass.

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Armstrong Bros. Tool Co., 308 N. Francisco
Av., Chicago
Graham Manufacturing Co., Providence, R. I.
Martin Tool & Lte Works, J. E., Springfield, O.

Vises, Machinists'

Western Tool & Mfg. Co., Springfield, O.

Vises, Milling Machine

Graham Manufacturing Co., Providence, R. I.

Vises, Shaper

Graham Manufacturing Co., Providence, R. I.

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Esler Electric Corporation, Newark, N.

Welding Machines, Resistance

Esler Electric Corporation, Newark, N. J.

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Etico Tool & Screw Corp., Rockford, Ill.

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Lists of Used and Rebuilt Machinery, either For Sale, Wanted, or For Exchange, set in uniform style, will be published in the Classified Section at the rate of 60 cents a line across the page, each issue, plus \$3.00 for name and address. Minimum charge, \$6.00. No display permitted.

Write directly to those offering the machines for sale, for prices and full descriptions. If what you seek is not advertised, use the blank enclosed to make known your wants in either new or used machinery and the publisher will pass them along to the advertisers.

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Cold saw, No. 15 Lea-Simplex.
Drill, 2-appl. Leland-G., t. a. & p. f.
Gear hobber, No. 1 Adams.
Grinder, Waterbury surface.
Grinder, twist drill, 14" cap.

Lathe, 18x6 Ryerson, q. c. g. & taper.
Lathe, Porter-Cable Production.
Milling machine, No. 2 Rock. plain.
Power press, No. 18 Bliss, o. b. i.
Shaper, 24" Rockford, b. g. crank.

FOR SALE BY

United Machinery & Supply Co., 1241 Walton Ave., St. Louis, Mo.

Drills, radial, 36" & 42", m. d.
Grinder, tool & cutter, Greenfield.
Lathe, 14"x8' Hendey, s. p. d.
Lathe, 26"x48"x18' McCabe.
Planer, Coulter automatic.

Saw, hack, 6x6 Peerless, 3 speeds.
Shear, Niagara 42", power.
Shear, 3/16" Quickwork, m. d.
Turret lathe, No. 1B Warney & S.
Wheel press, 50 ton, m. d.

FOR SALE BY

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Grinder, No. 50 Heald, hydraulic fd.
Lathes, 27"x16' and 18"x8' Prentice.
Miller, No. 1 Hendey universal.
Miller, No. 3S Cincinnati univ.
Miller, No. 2 Brown & Sharp plain.

Miller, No. 2 Knight vertical.
Punch and shear, No. 23 Pels.
Radial drill, 4' Cincinnati-Bickford.
Shaper, 14" G. & E., b. g., m. d.
Turret lathe, No. 4 W. & S. univ.

FOR SALE BY

Geo. M. Bernstein & Co., - 225 No. Elizabeth St., Chicago, Ill.

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Drill, No. 4 Colburn Mfg. hd. 250.
Gear hobber, No. 3 B-C. 250.
Miller, No. 1 Kemp. univ., v. h. 395.
New 4 Jaw Independent Lathe Chucks, 3"-

Miller, No. 4B Becker vert. 165.
Miller, No. 5C Becker vert. 200.
Screw mch., No. 2C-B & S. auto. 375.
Tapper, No. 2X Garvin. 90.
3"- \$3.50; 4"- \$4.50; 5"- \$6.50; 6"- \$8.

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Brownell Machinery Co., - 150 Pine St., Providence, R. I.

Boring mill, 36" Bullard New Era vertical.
Hammer, 125 lbs. Beaudry power forging.
Lathe, 28"x40' Putnam, 33'-9" centers.
Lathe, 24"x28' New Haven, q. c. g., 22'-4" centers.
Planer, 24"x24"x6' Whitcomb, s. b. d., 2 heads.
Planer, 30"x42"x14' Whitcomb, s. b. d., 1 head.

USED AND REBUILT MACHINERY

FOR SALE BY

Brown Machinery Co.,

Drills: 24", 26" and 32" Barnes and Rockford; 4-spindle Moline.
Grinders: No. 6 Besly dbl. spindle; No. 220 Badger auto. disk; 12x30"
Modern, plain s. c. c. s.; No. 12 Brown & Sharpe, universal, tool.
Hammer: 40 lb. Bradley, helve.
Lathes, 30"x12" Blaisdell; 26"x12" Putnam; 20"x10" Bradford, taper attachment; 16"x8" Lodge & Shipley; 16"x6" Monarch; 12" and 14" Seneca Falls, q. c. g.

Many other machines in stock.

2333 N. 9th St., St. Louis, Mo.

Millers, No. 2 Hendey-Norton, univ.; No. 3 $\frac{1}{2}$ Fox; No. 4 Hendey Lincoln; No. 3 Kemp Smith, universal.
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Punch, Cleveland C $\frac{1}{2}$ in $\frac{1}{4}$ "; Rock River Style L $\frac{1}{2}$ " in $\frac{1}{4}$ ".
Shaper, 24" Ohio.
Shear, 50" 10 ga Excelsior gap.
Shear, No. 25A Quickwork, $\frac{1}{4}$ " cap.
Threaders: $\frac{1}{4}$ " Geometric; National $\frac{1}{4}$ " double head.

Send us your inquiries,

FOR SALE BY

Scott-Bansbach Machinery Co.,

4607 West 20th St., Chicago, Ill.

Miller, Ingersoll slab, 42"x36"x9'	750.
Planer, 24x24x8 Fitchburg, 1 head	150.
Planer, 36"x36"x12" Cincinnati with 2 heads	800.
Press, No. 1, Consolidated o. b. i. $1\frac{1}{2}$ " stroke, 700 lbs.	80.
Press, No. 30A Perkins o. b. i., 2" stroke, 1500 lbs.	125.
Press, No. 3 American (R & K) o. b. i., $2\frac{1}{2}$ " stroke 2000 lbs.	150.
Press, No. 3, L. & J. o. b. i., $2\frac{1}{2}$ " stroke, 2000 lbs.	200.
Press, No. 4 Niagara o. b. i., 2" stroke, 1700 lbs.	175.
Press, No. 5 Niagara o. b. i., $2\frac{1}{2}$ " stroke, 2900 lbs.	250.
Saw, No. 5 Marvel high speed 6"x6"	100.
Screw machine, No. 1, B. & O. plain head, 13/16" capacity	175.
Separator, Curtis oil, 1 bushel	200.
Separator, oil, American $1\frac{1}{2}$ bushel	225.
Shaper, 16" Cincinnati, crank, back geared, vise and c/s.	150.
Turret lathe, 24x10" Milholland, for chuck and bar work	475.
Turret lathe, 34"x36" Acme with chucking equipment	300.
Turret lathe, 24" Steidle, 4" hole, side carriage	200.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

1211-1223 Hadley Street,

St. Louis, Mo.

Bar shear, 5"x $\frac{1}{4}$ ".
Boring mill, 36" Gisholt.
Drill, 14" Mason high speed.
Drill, 20" Champion.
Drill, 22" Barnes, back geared.
Drill, 24" Prentice, sliding head.
Drill, 25" Barnes back geared.
Drill, 28" Barnes sliding head.
Drill, 1-spindle Avey.
Drill, 2-spindle Leland-Gifford.
Drill, 3-spindle Avey.
Grinder, Wells Bros. universal.
Grinder, 12"x60" Landis universal.
Hammer, 60 lb. Bradley helve.
Hammer, 600 lb. steam.
Lathe, 18"x 8" South Bend.
Lathe, 20"x10" Bradford.
Lathe, 24"x12" Lodge & Shipley.
Lathe, 24"x12" Schumacher & Boye.
Lathe, 30"x15" Lodge & S., q. c. g.
Lathe, 36"x15" American, q. c. g.
Miller, No. 1 U. S. hand.

Miller, No. 2 LeBlond universal.
Miller, No. 2 Ohio single pulley dr.
Miller, No. 3 Kemp Smith universal.
Miller, No. 5-B Brown & Sharpe.
Pipe machine, 8" Williams.
Planer, 42"x42"x26" Wheeler, 2 hds.
Press, No. 57 Swaine straight back.
Press, No. 14 Bliss toggle.
Press, No. 3 Toledo.
Press, Stiles & Parker drawing.
Press, No. 37 Niagara str. back.
Press, No. 24 Toledo cam drawing.
Press, No. 723 Toledo cam drawing.
Punch, No. 14 W. W., 12" throat.
Punch, double end, two 20" throats, capacity 1" in 1".
Screw machine, No. 3A Warner & S.
Shaper, 16" Smith & Mills.
Shaper, 32" Cincinnati.
Shaper, 24" American-Klopp.
Squaring shear, 8" power.
Tapper, auto., Rickert & Schafer.

USED AND REBUILT MACHINERY

FOR SALE BY

Marr-Galbreath Machinery Co.,

58 Water St., Pittsburgh, Pa.

Air compressor, 10x10" Chgo., n.s.b.
Air receivers, 4'x18", 150 lb., (14).
Angle roll, No. 3 Niagara, 1 1/2x3/16".
Auto. lathes, 14" Fay, belt and m.d.
Beading machine, No. 100 Niagara.
Bender, hand, 3/16"x1" Wallace.
Bender & straight'r, cap. 12" beams.
Bolt cutter, 4" Geometric, m. d.
Boring mill, 30" King; and Bullard.
Boring mill, 36" Gisholt, turret hd.
Boring mill, horizontal 3" bar, b. m.
Brake, 8'x10 ga. Chicago, pan. m. d.
Brake, 52"x18 ga., P.S. & W., hand.
Brake, 6' D. & K., 16 ga. hand.
Brake 10' Keene toggle, 16 gauge.
Brakes, hd., 10', for 18 ga. Robinson.
Broaching mch. Nos. 1 & 3 LaPointe
Chuck, Walker magnetic, 6" diam.
Cold header, 1" W-F., solid die.
Crimping roll, 6 1/2" Robinson, 16 ga.
Die slotter, Garvin, rotary table.
Drills, multiple 10 and 20 spindle.
Drill, 20" Barnes, camel back.
Drill, 24" Rockford, g. f. taper att.
Drill, 25" Snyder, s. h., b. g.
Drill, radial, 5' Western, g.b., m. d.
Drill, radial, 3' Dreses.
Drill, sensitive radial, 3' Amer. t.a.
Exhauster, with 1 1/2 h.p. motor, 1/60.
Forging mchs., 1 1/2, 3" & 3 1/2" (steel).
Gear hobbors, No. 1 Adams "Farw.
Gear and pinion cutter, No. 3 Sloan.
Grinder, No. 1 1/2 Laudis universal.
Grinder, universal t. & c. Nos. 2 & 3.
Grinder, No. 1 LaSalle surface.
Grinder, 18-D. Rowbottom, o.h.b.b.
Hack saw, Millers Falls, 5x5".
Hack saw, 6x6" Marvel, motordrive.
Hack saw, 8x8" Racine, belt.
Hack saw, 9x9" Peerless, m. d.
Hack saw, Peerless, 6" univ. shaping
Hammer, 50 lb. Kane & Roach, pwr.
Ham., 400 lb. No. 10 Beaud., pwr. b.d.
Hammer, 600 lb. Erie stm. forg., s.f.
Hammer, 1000 lb. Chbg., steam drop.
Hoists, chain, 1 to 8-tons capacity.
Jointer, (wood) 6" Wallace, motor.
Keyseater, No. 2 Mitts & Merrill.
Lathe, Sundstrand 7" Mfg. type.
Lathe, 13"x6" Seneca Falls, q. c. g.
Lathes, 14"x6" Champion, q.c.g., tur.
Lathe, 14"x6" Hendey, m. d., t. a.
Lathe, 18"x12" L. & S., sel. hd. s.p.d. t.a.
Lathe, 19"x10" LeBlond, q. c. g., t.a.
Lathe, 20"x12" Monarch, q. c. g.; t.a.
Lathe, 22"x10" 10" Greaves-K., q.c.g.
Lathe, 24"x8" Hendey, t.a. (99% new)
Lathe, 24"x12" Pgh., q. c. g., chuck.
Lathe, 26"x15" G-K. for motor.
Lathe, 27"x16" Pgh., t. a., chuck.
Lathe, 30x15" Lehman, gd. hd.
Lathe, 32"x16" Pgh., q. c. g., chuck.
Lathe, 46"x26" geared head, m. d.

Milling machine, plain, No. 4 Burke.
Miller, No. 28 Ohio; No. 3 Cin'ti.
Miller, 2-GS. Hendey, g. b., s. p. d.
Millers, vert., Becker, 3, 4B, 5B.
Miller, universal No. 4 B. & S.
Miller, auto. No. 2-M P. & J., s. p.d.
Pipe benders, 2" Chgo & Wallace.
Pipe machine, Williams, 3", s. p. d.
Planer, 30"x10' W. & P., 2-heads.
Press, 42-h.p. Toledo, horn, plain.
Press, No. 6 Toledo, o. b. l., pl. m. d.
Press, No. 14 Toledo horn.
Press, s.s., s.c., b.g., 3 1/2" st., 7000 lbs.
Press, s.s., d.c., b.g., 3" st., 11000 lbs.
Presses, Nos. 3 & 4 Bliss, punch type.
Press, No. 19, Bliss o. b. l.
Press, o.b.l. No. 3 Niagara, 1 1/2" str.
Presses, foot, No. 57 Bliss, pendulum.
Press, No. 6 Perkins, s. s., 4000 lbs.
Press, reducing, No. 61 Bliss, 4" str.
Presses, No. 87 Niagara, screw.
Punches, s. e. 36", 48", 60", 72" thts.
Punch, s. e., Badger, 7" thrt., 1 1/2"x1 1/2".
Punch, Rapid, 20" tht., 1" x1 1/2", m. d.
Punch & shear, d.e., 9-A., Beloit.
Punch & shear, d. e. 16" thts; 1 1/2"x1"
with angle & barshear blades, m.d.
Punch & stake riveter, No. 123-C.
Toledo boilermakers.
Reduction gear, 20 h. p., 9:1.
Reduction gear, 3 h. p., Foot, 18:1.
Riveters, 3-A, 5 1/2 B, high speed.
Rolls, bend'g, 10'x5/16" Bertsch, d.e.
Rolls, bending, 8'x8" Bertsch, m. d.
Rolls, bend'g, 5'x5/16" Bertsch, d.e.
Rolls, 30"x1 1/2", 31 1/2"x3", hand.
Screw machine, No. 0G B. & S.
Shaper, 7" Rhodes, vert. ram. m. d.
Shaper, 15" Kelly sgl. geared crank.
Shaper, 20" G. & E., b. g., vise.
Shapers, 20" Rockford & S. & M., cr.
Shaper, 24" P. & J. down feed & m.d.
Shaper, 25" S. & M., b.g., crk., A-1.
Shear, 42"x3 1/2" Niagara, 18" gap.
Sear, 72"x3 1/2"x20" gap, Stoll.
Shears, 1 1/2" & 1 1/2" Lennox, throatless.
Shears, alligator, 1 1/2", 2", 2 1/2" & 3".
Shear, alligator, No. 2 Badger, 2".
Shear, rotary, 12" thrt., cap. 10 ga.
Shear, rotary, No. 208 Niagara,
circle attachment.
Shear, rotary, 16 ga., Yoder, 24" thr.
Shear, squaring, 8'x14 ga. power.
Shear, 16'x16 ga. Ohl power.
Slotter, 15" Dill, for motor drive.
Slotter, die, Garvin, cone drive.
Stencil cutter, Bradley.
Tappers, No. 2 Garvin, vertical.
Tube cutter, Fox 2 1/2" cap.
Turret lathe, 28" Gisholt, 3 1/2" h. s.
Turret lathe, 36"x7 1/2" h. s., Libby.
Wheel press, 60-ton W. S., 34"x8 1/2".
Send us your inquiries.

USED AND REBUILT MACHINERY

FOR SALE BY

Percy M. Brotherhood & Son - 25 Church St., New York City

Brakes, power press, 8', 10', 12', various capacities.

Brakes, leaf type, 6', 8', 12', various capacities.

Bending rolls, 1/2" to 1 1/2".

Boring mills, 30" to 14'.

Nibblers, 3/4", 3/16", 1/2", 3/8".

Planers, 24" to 144".

Planers, plate.

Punches & shears.

Shears, rotary & splitting.

Shears, angle.

We have splendid lot of high grade tools.

Millers, Shapers, Radials. Lathes, etc.

FOR SALE BY

Joseph Hyman & Sons - 2600 E. Tioga St., Philadelphia, Pa.

Stamping Press Specialists. 1200 Presses In Stock.

No. 703 Bliss flat edge trimmer.

No. 23-D Bliss, gap frame, double crank, flywheel, weight 13,000 lbs.

No. 139 Bliss, dbl. crank, flywheel, 79" between uprights, weight 15,000 lbs.

No. 6-F Bliss, dbl. crank, geared, tie rod, 84" bet. uprights, weight 36,000 lbs.

No. 64 Bliss, double crank, geared, 54" between uprights, weight 28,000 lbs.

No. 144 Toledo, side flywheel horning, weight 6,000 lbs.

No. 202-C Toledo, gap frame double crank, geared, weight 7,500 lbs.

No. 94-F Toledo, dbl. crank, grd., 72" between uprights, weight 36,000 lbs.

Shear, No. 196 Stoll, 8' 16 gauge capacity, underdriven, grd., weight 5200 lbs.

FOR SALE BY

The Jones Machine Tool Co., Front & Pike Sts., Cincinnati, Ohio

Brake, (press) Ohl 10'.....\$1200.

Boring mill, No. 21 Lucas..... 1090.

Boring mill, No. 32 G. & L..... 1750.

Gear cutter, No. 13 B. & S..... 375.

Gear hobber, No. 12 Barber-C..... 375.

Grinder, No. 1 Diamond surf..... 475.

Grinder, 16x72 Landis for cr..... 575.

Keyseater, No. 3 M. & M..... 350.

Lathe, 24x12 B. & E., quick c. 575.

Lathe, 32x12 B. & E., quick c. 725.

Lathe, 36x14 Bradford..... 375.

Lathe, 30x20 American, s. p.....\$1500.

Miller, No. 2M Cin'tl, s. p..... 575.

Millers, Nos. 2 & 3 Cin'tl, s. p.....

Press, No. 40B Robinson, d. c. 575.

Press, No. 42 Robinson, d. c. 1200.

Press, No. 6 Verdin K. & V. inc. 900.

Radial, 4' Fosdick cone drive. 175.

Radial, 8' American, g. h..... 1000.

Shaper, 24" Queen City..... 475.

Square shear, 10' pwr., 14 ga. 450.

Wheel press, 350 ton..... 575.

We have a large stock of Lathes, Radials, Shapers, Square Shears, Presses, etc.,—all sizes. Let us have your inquiries.

FOR SALE BY

Miles Machinery Co., Saginaw, W. S., Mich.

UPRIGHT DRILLS

20" Sibley.

21" Cincinnati Bickford.

22 1/2" W. F. & J. Barnes.

24" Cincinnati Bickford.

24" Barnes Humpback.

26" Rockford.

28" Superior.

30" Sibley.

MILLERS

Nos. 1 1/2, 2 & 2 1/2 Rockford.

Nos. 1 1/2, 2, 2B & 3 Brown & Sharpe.

Nos. 2, 3 & 4 Cincinnati.

No. 2 LeBlond.

No. 3 Kempsmith.

No. 2A Brown & Sharpe universal.

No. 3 Kempsmith universal.

No. 3B Milwaukee vertical.

24" Cincinnati duplex.

48" Newton rotary.

LATHES

14"x6' LeBlond.

15"x6' South Bend.

16"x6' Monarch.

16"x 8' Lodge & Shipley.

16"x10'6" American.

18"x8' Cisco geared head.

20"x 8' Lodge & Shipley.

26"x14' Putnam.

USED AND REBUILT MACHINERY

FOR SALE BY

West Penn Machinery Company

1208 House Building,

Pittsburgh, Pa.

Automatic, No. 0 Brown & S. b. d.
Air compressors, 30 to 2500 cu. ft.
Blower, Spencer turbine, 1800 c. f.
Bolt cutter, 1" Landis, 3 hds., m. d.
Bolt cutter, 2 1/2" Acme, sgl. hd. m. d.
Boring mill, 30" Bullard, turret hd.
Boring mill, 36" Bullard, rapid prod.
Boring mill, 72" Pond, 2 hds., b. d.
Boring mill, 10-16" Betts, 2 hds. m. d.
Boring mill, horiz. D. & H. 5-1/2" bar.
Brake, 5' press type, 10 gauge.
Brake, 8' D. & K. 10 ga. box & pan.
Brake, 10" Dreis & K. 1/2", m. d.
Bulldozers, Nos. 2, 4, 6, 28, 29 & 30.
Cranes, Electric Traveling.
Derrick, 10-ton, 60-ft. boom.
Die threader, Smalley General, dies.
Dieing mchs., 25 & 50 ton H. & W.
Die sinker, No. E-3 Keller, m. d.
Drill, bench, 12" Buffalo, a. c., m. d.
Drill, h.s. 14" Canedy-O., 1750 r.p.m.
Drill, mul. 4-sp., Moline Hole Hog.
Drill, radial, 2 1/2" Fosdick, t. a., b. d.
Drill, radial, 3 1/2" Cin-Bickford, s.p.d.
Drill, radial, 4" Prentice, t. a., b. d.
Drill, radial, 6" Dreses, s. p. d.
Flanger, McCabe, 1/2" capacity, dies.
Gear cutters, 11", 24" & 36" Gleason.
Gear cutter, spur, 36" x 10" Newark.
Gear hobber, No. 4 Sch. & Sch. 118".
Grinder, floortype, 8" U.S., 220 v. ac.
Grinder, centerless, No. 2 Cincinnati.
Grinder, centerless, No. 4-C Detroit.
Grinder, internal, No. 70 Heald.
Grinder, rad., 14" M. & D., m. d.
Grinder, surface, No. 16 Blanchard.
Grinder, surface, 14" Arter.
Grinder, surface, No. 2 Reid, b. d.
Grinder, tool & cut., No. 2 Walker.
Hammer, Blacker, power, 35-lbs.
Hammer, 60-lb. Bradley, cush. helve.
Hammer, 200-lb. Bradley, cush. helve.
Hammer, 200-lb. Bradley, compact.
Hammers, Nos. 2-B, 3-B, 4-B, Nazel.
Hammers, steam, 600 lb. to 6000 lbs.
Header, No. 2 Wat. Far., o. d., tr. st.
Jacks, 35-ton Barrett, ball bearing.
Keyseater, No. 0 & 3 Baker.
Lathe, 13" x 8" South Bend, m. d.
Lathe, 16" x 6" LeBlond, q. c. g., d. b. g.
Lathe, 20" x 8" Hendey, tie bar, t. a.
Lathe, 24" x 16" Bridgeford, g. hd. m. d.
Lathe, 48" x 26" Bridgeford, g. hd. m. d.
Lathe, turret, No. 6 Warner & S.
Lathe, turret, 18" Libby, m. d.
Lathe, turret, 24" Steinle, 6 1/2" hole.
Lathe, tur., 26" Gisholt, 9" hole, m. d.
Lysholm tables, 72" x 30".
Miller, duplex, 24" Cincinnati, auto.
Miller, plain, No. 2-A Milwaukee.
Miller, universal, No. 3 LeBlond.
Nut tapper, 6-spindle Acme, 2".
Pipe machine, 3" Landis.

Pipe mchs., 8" Oster, 8" Williams.
Planer, 30" x 30" x 10' Woodward & P.
Planer, 48" x 48" x 18" Cinti., belt drive.
Planer, o. s., 36" x 36" x 16" D. & H.
Planer, o. s., 48" x 48" x 16" D. & H. m. d.
Planer, rotary, 48" Niles, m. d.
Presses, arbor, No. 17 Greenerd.
Press, o. b. i. Ferracuti C1, 3" stroke.
Press, o. b. i., No. 5 Rockford, 8500 lb.
Press, hydraulic, 1,000 ton United.
Press, hyd., 400-ton Robertson, m. d.
Press, hyd. 100-ton Watson-Stillman.
Press, s. s., 13" x 19 1/2", 2" stroke.
Press, No. 784 Bliss, t. r. 10" str.
Press, No. 92 B Toledo, d. c. 2 1/2" str.
Press, No. 96-A Toledo, d. c. 5" str.
Press, screw, No. 87 Niagara.
Press, wheel, 150-ton Schaffer.
Punch, hand, Shatz, bar and angle.
Punch & sh. No. 6 L. & A. 1/2" thru 1/2".
Punch, No. 3-A Roversford, 20" thrt.
Punch, EF Cleveland, 36" thrt., 1-1/2".
Saw, hack, No. 4 Robertson, 8" x 8".
Punch, multiple, No. 5 H. & J. 10".
Riveters, air, hammer, spinning.
Rolls, bending 7" x 1/2" Cleveland.
Rolls, bend., 8" x 1/2" Bertsch, d. e. b. d.
Rolls, bending, 12" x 1/2" H. & J. d. e.
Roller, thread, Nos. 40 & 50 W. - F.
Saw, band, metal No. 2 Klem, m. d.
Saw, cold, 48" Newton, m. d.
Saw, friction, Nos. 2 & 3 Ryerson.
Saw, hack, No. 5 Marvel, b. d.
Screw mch., No. 1 W. & S. wire feed.
Screw mch., No. 52 N. - A., 4-spd., 1/2".
Screw mch., No. 53 N. - A., 4-spd., 1".
Shapers, 16", 20", 24" & 36" G. & E.
Shaper, 48" Morton draw cut, m. d.
Shear, angle, 6" x 6" x 1" H. & J.
Shears, alligator, 1 1/2", 2", 3" & 4".
Shear, bevel, Lennox 1/2", b. d.
Shear, No. 1 Gray, 3/16" 34" gap.
Shear, gang splitter, No. 235-A Bliss.
Shear, splitter, gang 36" Voder, m. d.
Shear, guil. No. 5 H. & J. 4" sq., m. d.
Shear, rotary, 1/2" Ryerson.
Shear, 36" x 16 ga. Pexto, foot.
Shear, squaring 8" x 14 ga. Ohl.
Shear, sq., 10" x 10 ga. Kutscheid, m. d.
Shear, squar. 12" Niagara, 10 ga., m. d.
Shear, 54" x 1/2" Garrison, 24" gap.
Shear, 12" x 1/2" Wheeling, 31" gap.
Slotter, 18" Dill, motor drive.
Straight'r, 48" United, 16 ga. 13 rolls.
Straightener, 1 1/2" round Abramson.
Straightener, 4" round Abramson.
Swaging mche., No. 5-A Standard.
Tapper, nut, 1/2" Acme, 4-spindle.
Testing mche., Brinnell hardness.
Testing mchs., 50,000 & 100,000-lb.
Tumbling barrel, 18" x 36", b. d.
Upsetters, 1" to 6".
Welders, spot and butt.

USED AND REBUILT MACHINERY

FOR SALE BY

James J. Gouse, Inc. 137 Oliver Street, Boston, Mass.
 Grinder, 36"x12" P. & W. vert. \$ 575. Lathe, L. & S. sel. hd., 20"x20" \$1100.
 Grinder, No. 2 B. & S. surf. ck. 250. Press, Lucas forcing, 30 ton. 125.
 Lathe, Mon. gap, 14"x24"x12" 250. Press, No. 4 Z & H inclinable 200.
 Drill, 4spdl. L.-G., ind. m.d., 8" cap. p.f. & b.g., va. rspd. 220-3-60, like new 1050.
 Inquiries Solicited.

FOR SALE BY

M. A. Wertman Machinery Co., 427 Penton Bldg., Cleveland, Ohio
 Brake, Ohi 8"x10 ga., press type, good as new condition, low price.
 Crane, No. 4 Canton portable floor crane.
 Grinder, Landis 12"x72", self contained type, excellent condition.
 Miller, No. 2 Cincinnati plain, cone type, good, very cheap.
 Shear, Loy & Nawrath, 10"x1", complete, fine condition.

FOR SALE BY

Mid-West Machine Tool & Supply Co., Davenport, Iowa
 Automatics, Nos. 0 & 00 B. & S. Hobbers, Nos. 3, 12-B & C.
 Drill, Allen 6 spindle, h. s. Lathe, No. 9 LeBlond multi-cut.
 Grinder, 10"x36" Norton. Millers, Nos. 1 & 2 Brown & Sharpe.
 Grinder, No. 10 B. & S. ext. Radials, 3' Cincinnati Bickford.
 Grinder, No. 22 Heald rotary surf. Turret lathe, No. 6 Warner & S.
 Partial list; send us your inquiries.

FOR SALE BY

Wigglesworth Machinery Company

199 Bent Street, Cambridge, Mass.
 Automatics, No. 00 B. & S. \$250.00 Miller, 6"x18" P. & W. thread.
 Automatic, 9/16", 5 spdl. Nat. Acme. Miller, No. 2 LeBl. hvy. univ., m. d.
 Boring mill, No. 0 G. & L. Miller, 48"x24"x10' Ingersoll.
 Lathe, 18"-20"x20" L. & S. Planer, 30"x30"x8' Eng. openside.
 Lathe, 19"-30"x8' LeBlond, gap. Press, No. 3A Bliss.

FOR SALE BY

McDonald Machinery Co., 1535 N. Broadway, St. Louis, Mo.
 Bolt mchs., Landis & Acme 14". No. 3; Ohio No. 29 all universal;
 Boring mill, Lucas & Bul. hor. & vert. No. 3, Kemp. No. 1, LeBlond
 Brake, D. & K. 6' 10 gauge, power. No. 3-H.; B. & S. No. 3-B, s. p. d.,
 Drills, Moline, 32-sp. hole hog. all plain, Cincinnati 18" automatic,
 Drills, Cin-Bickford 3' & 3 1/2' radials. Cleveland No. 2 s. p. d., B. & S.
 Gear hobber, G. & E. 24". Pipe mchs., Curtis, B. & K. 12" m. d.
 Grinders, B. & S. No. 2 surf. & univ. Punch presses, Bliss No. 20; Swaine
 Grinders, P. & W. 14" vert. surf. b.b. Nos. 33 & 35; Federal Nos. 2, 3,
 Grinder, Abrasive No. 33, m. d., vert. & 4, all o. b. i., Swaine No. 51 & 53.
 Keyseaters, M. & M. No. 2. Screw machines, Woods No. 2 tilt-
 Lathes, Hendey 14"x6"; Lehman ing turret, Milholland No. 4 and
 18"x9", Amer. 22"x16" q. c. g. grd. Foster No. 7, b. g. hand.
 hd.; 50 others in all sizes & styles. Shapers, G. & E., S. & M., Cin., Ohio
 Milling machines, Becker No. 3, 16" b. g., Cin. 20", G. & E., Steptoe,
 B. & S. No. 5, vert. Cin., S. & M., 24" b. g.; Ohio,
 Milling machines, Van Norman S. & M. 26" b. g., Rhodes 7".
 No. 2 duplex; B. & S. No. 1 1/2 Cinc. Square shears, Niag. 62" 18 ga., pwr.
 No. 1 1/2, Hendey No. 1-B, Kemp. Turret lathes, W. & S. No. 2A univ.

USED AND REBUILT MACHINERY

FOR SALE BY

The E. L. Essley Machinery Co.

Telephone Lincoln 6320

825-845 Rees St., Chicago

Brake, 8', No. 18 gauge, Robinson.
Press brake, 10' No. 10 gauge Ohl.
Presses, No. 165-B Consolidated grd.
Presses, Nos. 19 and 21½ Bliss.
Presses, No. 5 Toledo, o. b. i.

Press, No. 7-A Niagara.
Riveters, Nos. 3A, 4A & 5A Hi. Spd.
Shears, 10' 3/16" cap. Niagara m. d.
Shear, Pels M. E. A. No. 16, m. dr.
Shear, 52" No. 16 gauge Niagara ft.

FOR SALE BY

L. F. Seyfert's Sons, Inc., (Monarch Machinery Co. Div.)

437-39 North Third Street,

Philadelphia, Pa.

Arbor presses, Nos. 3, 3½, 4 & 8 Greenerd; No. 3 Barnes screw press.
Drill presses, ball bearing Allen, Sipp & Edlund; 1 to 6 spdl., some mtr. dr.
Lathes, 12"x6' Hendey, tie bar head, pan and taper attachment.
Milling machines, Cincinnati No. 2 plain, No. 2M plain, motor drive, No. 2
Kemp Smith universal cone.
Shapers, 16"x20" Ohio, 20" Gould & Eberhardt, 24" Steptoe.

FOR SALE BY

The O'Brien Machinery Co.,

113 N. Third St., Philadelphia, Pa.

Automatic, 14" Cone, practically new.
Bending rolls, 10' Bertsch, ¾" cap.
Bending roll, 25' H. & J. ¾" cap.
Column facer, 14" Espen-Lucas.
Crane, electric travel, 15 ton a. c.
Drill, 4' Cincinnati-Bickford, radial.
Grinder, 30"x162" Landis, m. d.
Hammer, No. 6N Nazel, motor dr.

Hammer, 2000 lbs. Chambersburg.
Lathe, 20"x10' Flather, b. d., new.
Lathe, 23"x20' LeBlond, belt drive.
Lathe, 36"-60"x32' McCabe, belt.
Lathe, 60"x36' Bridgeford.
Pipe mchs. 2, 4, 6, 8 & 12" belt & m. dr.
Punch, No. 3 Southwark, cap. ¼".
Shear, 84" Newbold, ¼" cap., 27" gap.

FOR SALE BY

The Elyria Belting & Machinery Co.,

Corner Williams and Buckeye Streets,

Elyria, Ohio

Hammer, 1,200 lb. Chambersburg.
Hammer, 1000 lb. Waterbury-Farrel.
Hammer, Blacker, (blacksmith) with anvil and base.
Hoist, 1 ton Reading electric, 3 h. p., 220 v., a. c.
Punch press, No. 55 Special Toledo, 16" thr., straight side, double bk. grd.
Punch press, No. 5A Toledo inclinable, 3" stroke.
Punch presses, Bliss, 1", 1½" and 2".
Punch presses; Rockford, 1½", 2" and 2½".

FOR SALE BY

Interstate Machinery Co.,

130-2 So. Clinton St., Chicago, Ill.

Angle iron cutter, 3x3½.
Brake, 10' Chicago Steel pwr. apron.
Circle shears, Nos. 15 & 17 Niagara.
Drill, Fox 14 spdl., mult. power fd.
Drill, 4' Hammond radial, mtr. dr.
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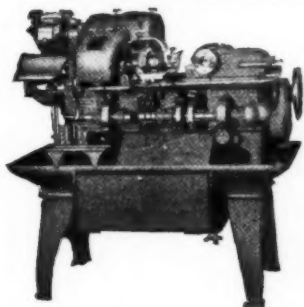
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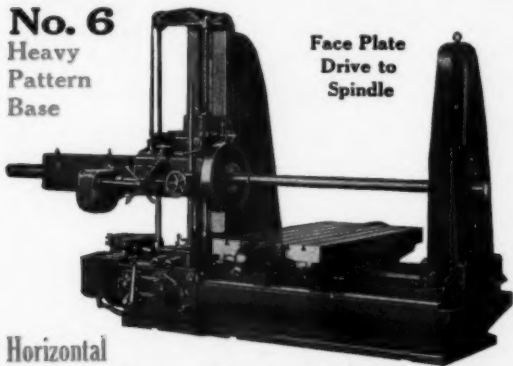
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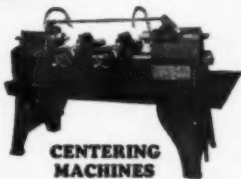
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